

Chapter 7

Combat Service Support

The term “combat service support” describes the full range of personnel services and health services functions as well as the traditional logistical support of supply, maintenance, field services, and transportation. It includes all the requirements related to manning, arming, fueling, fixing, moving, and sustaining the force during military operations. The basic mission of CSS is to sustain the force. CSS planning must focus on maintaining and supporting the battalion’s soldiers and weapon systems as it executes the commander’s intent while conducting operations. This chapter has five sections. Section I addresses CSS organizations and functions in general. Section II covers CSS planning. Section III provides information on logistical support. Section IV focuses on personnel and health services support. And Section V provides an overview on reconstitution.

SECTION I – ORGANIZATION AND FUNCTIONS

7-01. This section outlines the CSS organizations within the FA battalion and the external support elements with which a FA battalion interfaces. TOE structure differences impact CSS. Some FA battalions have a HHSB while other battalions may have a HHB and a SB. FA battalions may also have a centralized CSS structure that places much of the CSS at battalion, or a decentralized structure with self-sustaining firing batteries that are assigned most of their own CSS.

7-02. Regardless, of the TOE/MTOE structure, the FA battalion commander can task organize the CSS assets for centralized or decentralized C2. Centralized CSS lightens the CSS burden on the firing batteries and can increase mobility. Decentralized CSS gives the firing batteries more control over their CSS, facilitates attachment of a battery to another FA unit or to a maneuver unit, and allows independent operations. In determining how much centralization will be required, the battalion commander considers:

- METT-TC.
- Personnel status (strength and experience) of these sections.
- Availability of equipment.
- Availability of external support.
- Capability of the battalion staff to supervise additional sections.

7-03. This chapter contains frequent references to the various classes of supply. Table 7-1 provides a brief description of each of the classes. FM 100-10, *Combat Service Support*, contains additional, detailed information on supply classes.

Table 7-1. Classes of Supply

CLASS	COMPOSITION
CLASS I	Subsistence, gratuitous health, and comfort items (e.g., beef, sundry packs, vegetables, bread)
CLASS II	Individual clothing and equipment and general supplies (e.g., jackets, boots, tools)
CLASS III	Petroleum, oils, and lubricants (POL) (e.g., gasoline, oil, grease)
CLASS IV	Construction materials (e.g., wire, lumber, cement)
CLASS V	Ammunition (e.g., grenades, 7.62mm, mines, explosives)
CLASS VI	Personal demand items (e.g., candy, soap, cameras, cigarettes)
CLASS VII	Major end items (e.g., trucks, rifles)
CLASS VIII	Medical supplies (e.g., bandages, drugs, syringes, stretchers)
CLASS IX	Repair parts and components (e.g., batteries, spark plugs, axles, cotter pins)
CLASS X	Material to support nonmilitary programs (e.g., tools)

SECTION RESPONSIBILITIES

S1 SECTION

7-04. The S1 section is responsible for personnel services and the general administration of the battalion, to include support to the batteries. The S1 section manages strength accountability, casualty reporting, replacement operations, administrative services, personnel actions, legal services, finance services, and CP functions. The S1 section directly provides many of the services, while others, like legal and financial support often involve coordinating external support.

7-05. The S1 section also has primary staff responsibility for EPW operations and medical planning. It coordinates with the S2 for interrogation of prisoners and with the S4 for processing captured equipment and satisfying transportation requirements. The S1 coordinates with the medical section leader to ensure that patient treatment and evacuation are planned and coordinated throughout the battalion area.

MEDICAL SECTION

7-06. The battalion aid station (BAS) sorts, treats, and evacuates casualties or returns them to duty. It stocks medical supplies for the battalion and manages all Class VIII support. The BAS is also responsible for maintaining and evacuating the battalion's damaged medical equipment for repair.

7-07. The medical section (treatment team) officer, a field surgeon, or a physician's assistant, manages the BAS. He coordinates the operation, administration, and logistics of the medical section and combat health service support for the battalion. This includes coordinating patient evacuation to the supporting medical company and providing support to batteries.

S4 SECTION

7-08. The S4 section is responsible for supply, transportation, and field service functions. It coordinates requisition of supplies and their distribution to battery supply sections and turns in captured supplies and equipment. In combat, the S4 concentrates on nine classes of supply: Classes I, II, III, IV, V, VI, VII, IX and X.

7-09. The S4 section is responsible for obtaining water. The S4 uses organic transportation to transport water from the designated water supply point in or near the supporting CSS support area or from forward sources that are tested and approved by the medical section.

MAINTENANCE SECTION

7-10. The battalion maintenance section is responsible for unit maintenance on all battalion equipment except COMSEC and medical equipment. The section maintains Class IX (repair parts), The Army Maintenance Management System (TAMMS) records, and the prescribed load list (PLL) stocks. It also provides recovery and towing operations. In battalions with distributed CSS (firing battery maintenance sections), the battalion maintenance section supports the firing battery maintenance with higher level maintenance, major repairs, and contact teams.

7-11. Some battalions have consolidated maintenance activities; however, the responsibility for operator and crew maintenance remains with battery commanders. During maintenance operations, maintenance elements of the battalion are task-organized to maximize forward support to the batteries.

AMMUNITION SECTION

7-12. Some battalions have only a three-person ammunition management section (or support platoon HQ in light cannon units), and no battalion level ammunition sections. Other battalions have an ammunition platoon with a platoon HQs and three ammunition sections.

7-13. The ammunition management section (or platoon HQs) performs battalion level management of all ammunition requirements. It coordinates both external and internal resupply efforts. The BAO, working with the S3 and S4, coordinates the requisition, receipt, preparation, and delivery of Class V. The ammunition sections, where applicable, pick up and deliver ammunition, establish temporary ammunition points, and assist with residue removal when necessary. At times, battalion ammunition sections may be placed under battery control, or battery ammunition sections may be consolidated under battalion control.

BATTERIES

7-14. Battery CSS capability varies with the type of FA unit, and the TOE structure of the battalion. Normally, all batteries have their own supply sections. The battalion medical element provides a combat medic, who usually accompanies the battery, the S6 provides communications maintenance contact teams (on an as-needed basis), and the battalion S1 section provides personnel and administrative support on a GS basis.

7-15. In light (105mm) battalions, the firing batteries generally have their own ammunition sections, but receive maintenance, POL, and food service support from battalion. In 155mm battalions, each battery may have its own maintenance, food service, and POL sections, and firing batteries may additionally have their own ammunition sections. On some TOEs, battery maintenance sections may be on the service battery TOE. Some firing batteries also have a support platoon HQ that supervises battery CSS assets. In MLRS battalions, MLRS batteries usually have their own organic maintenance sections.

7-16. Firing battery and platoon leadership teams carefully monitor their unit's CSS status, plans, and requirements. When CSS assets are directly under their control (organic or attached), they proactively manage and direct this CSS as necessary. When most or all CSS assets are consolidated under battalion control, battery or platoon level CSS management consists primarily of reporting requirements, requesting support, ensuring that CSS is properly executed in the unit area, and on identifying potential CSS problems that may adversely impact mission accomplishment.

7-17. Because battery CSS capability varies by unit type and TOE/MTOE structure (which change), FA battalions working with other FA units should verify CSS organization.

FA BATTALION CSS

7-18. FA battalions receive CSS from various division and corps CSS elements, generally located in brigade, division, or corps CSS locations. To facilitate CSS operations, the force FA HQ, the division support command (DISCOM) or corps support command (COSCOM), and the division or corps G4s, frequently coordinate for the support to come from the closest CSS facility, such as a BSA, division support area (DSA), or a corps support group (CSG). When an FA battalion draws its CSS from the BSA or DSA, it may draw the support from either division or corps CSS elements located with those areas (dependent on command relationships and CSS arrangements).

DIVISIONAL FA UNITS

7-19. A FA battalion DS to a maneuver brigade usually receives its CSS from the BSA located in the brigade rear area, about 20-25 km behind the FLOT. The BSA will include the brigade rear CP, brigade and task force CSS assets, and division and corps CSS assets that support the brigade, division, and corps units operating in or near the brigade AO. The division, specifically the DISCOM, normally positions a forward support battalion (FSB) in the BSA to support the brigade, its supporting FA battalion, and other assets as directed.

7-20. The DS cannon battalion XO and S4 work closely with the maneuver brigade S4 and the FSB support operations officer to coordinate CSS and develop a logistics plan. The FA battalion commander and the brigade FSO assist the XO and S4 in communicating FA requirements to the brigade commander to ensure that FA requirements are adequately prioritized. If the DS battalion is supported by a R FA unit, the commander, XO, and S4 of the reinforcing unit will also participate in this CSS process, usually working

through the DS battalion. The DIVARTY S4 assists the battalion in coordination with DISCOM elements.

7-21. Divisional GS FA units may receive some or all of their CSS from out of a BSA or the DSA, depending on distances and the arrangements coordinated by the FA battalion's S4. Divisional GS FA units may locate their trains locations in or near a BSA or DSA as appropriate. The DSA is normally between the BSAs and the division rear, and next to air-landing facilities and the MSR. The main support battalion (MSB) (or division support battalion [DSB] in newer CSS structures), operating from the DSA, normally provides much of the CSS support for the divisional GS FA battalion.

7-22. All FA units operating in the division rear, drawing support from the DSA, or desiring space in the DSA should coordinate with the DISCOM S2/S3 support operations branch, the division rear FSE, and/or the DIVARTY S4 as appropriate. More detailed information on DISCOMs can be found in FM 63-2, *Division Support Command, Armored, Infantry, and Mechanized Infantry Division*, FM 63-2-1, *Division Support Command, Light Infantry, Airborne, and Air Assault Division*, and FM 63-2-2, *Tactics, Techniques, and Procedures for the Division Support Command (Digitized)*.

NONDIVISIONAL/CORPS FA UNITS

7-23. The challenge for nondivisional/corps FA units is in maintaining consistent, timely CSS during movement between different division and brigade zones. FA battalions, or their FA brigades, may need to leave a small CSS element at a previous support area to close out any critical CSS issues that cannot be transferred to or assumed by supporting CSS elements in the new location. To overcome this problem, one technique used in at least one corps is the creation of corps forward logistical elements (FLEs) specifically designed to support a corps FA brigade. The FLE moves with the FA brigade in order to maintain better continuity of CSS support. The FLE will normally operate from within the nearest brigade, division, or corps support area. In corps that do not use the FLE concept, the FA battalion's CSS may come from the nearest support area.

7-24. Nondivisional FA units operating in the forward part of a division area may receive CSS from out of the BSA or the DSA. This support may come from either divisional or corps CSS elements operating within the BSA or DSA, depending on battalion's tactical mission, command relationships, the type and extent of the support and the arrangements coordinated by the HQs involved. The COSCOM determines the type and amount of corps level CSS needed in the BSAs and DSAs based on the amount of support the division needs and the number of corps units operating in the division zone. COSCOM CSS elements operating from a BSA or DSA may consist of a corps support battalion (CSB), elements from a CSG, or a smaller support element formed to provide forward support. The corps artillery G4 or FA brigade S4 will normally assist the nondivisional FA battalion in arranging CSS from a nearby BSA or DSA when necessary. The key distinction for a nondivisional FA unit receiving the CSS support is to determine whether the support is coming from divisional or from corps CSS elements, and to clearly identify the channels for submitting CSS requests.

7-25. Nondivisional FA units operating in the division or corps rear areas may receive their support through the nearest DSA, CSG, CSB, or other corps CSS element. Distance, operational requirements, and the CSS capabilities within each of the logistical support areas will be key factors in determining where the FA unit can be best supported. A nondivisional FA unit receiving support from within the DSA may receive that support from either division or corps CSS elements within the DSA. The FA battalion's higher FA HQs (FA brigade or corps artillery) will assist the battalion in coordinating the support with the DISCOM or COSCOM, as appropriate. The battalion will then primarily communicate directly with the appropriate CSS element and possibly the division or corps rear FSE. In some cases, a nondivisional FA battalion may receive CSS from both a DSA and from a CSG or CSB.

7-26. A major consideration for nondivisional FA battalions supporting light divisions is the spartan nature of the division's logistical support structure. Light divisions rely heavily on corps CSS packages, so the addition of nondivisional FA units usually requires well thought out CSS augmentation.

FA BATTALION TRAINS

7-27. The FA battalion trains is a grouping of equipment and vehicles to provide CSS support to the batteries. The organization of the FA battalion trains varies with METT-TC and available space. The battalion trains is normally made up of battalion CSS assets and may include elements of the FSB. Generally, trains can be organized for combat in a:

- Single location - All support operating under direct control of the unit is termed "unit trains."
- Dual locations – "combat" and "field" trains locations.
 - The combat trains contains those elements providing critical battlefield support forward with the batteries.
 - The field trains contains elements operating farther back with or near support units of the next higher HQ.

7-28. In either the single or dual location trains concept, C2 of CSS assets is primarily an S4 and S1 function, especially in HHSB based battalions. However, the HHSB leadership team, or where applicable the HHB and SB leadership teams, assist the S1 and S4 with management, movement, and security for the trains location(s).

UNIT TRAINS

7-29. When CSS resources are centralized in one location, they are called unit trains. This option provides:

- Centralized coordination and control of logistical personnel and equipment.
- Enhanced security and capability for ground defense.
- A single base for CSS activities.

7-30. Unit trains may be appropriate in slow-moving or static situations, when firing batteries have organic or attached support, when the tactical situation forces the trains to be a self-contained operation, when the battalion is in an assembly area or during an extended tactical march. Unit trains will

normally consist of most of the battalion level CSS assets, except for those positioned with the battalion main CP, those detailed out to the firing batteries, and possibly a UMCP. The UMCP may be established closer to the firing batteries, possibly positioned near the main CP, in order to facilitate rapid repair and evacuation of equipment. The HHSB (or SB) commander commands the unit trains.

7-31. Towed FA units normally lack sufficient resources to effectively use the dual trains concept, and thus usually operate under a unit trains organization. The unit trains is normally in or near the BSA or closet support area. The operations center for the unit trains is the ALOC. The planning considerations for trains, logistics packages (LOGPACs), and other CSS operations for SP units are generally relevant to towed units as well.

DUAL (COMBAT AND FIELD) TRAINS

7-32. The preferred method of supporting a SP battalion is through dual trains. The use of the dual trains technique provides (Figure 7-1):

- Immediately responsive forward support tailored to the tactical situation.
- Flexible resource usage.
- Increased resource survivability.
- Enhanced responsiveness when the tactical situation is very fluid or when the supported unit is operating over extended distances.

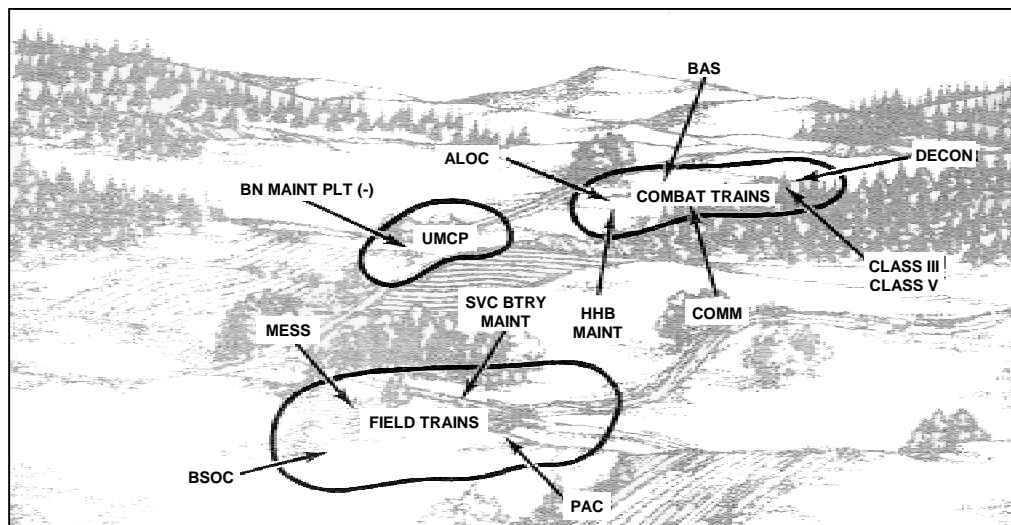


Figure 7-1. Dual (Combat and Field) Trains

Combat Trains

7-33. The battalion combat trains is organized to provide immediate critical CSS. It is the hub of CSS operations for the battalion. The HHSB (or HHB) commander usually commands the combat trains, which may include:

- The ALOC (which also serves as the CP for the combat trains).
- POL (awaiting distribution to the batteries).

- Ammunition (awaiting distribution).
- Maintenance contact teams with a recovery capability.
- Battalion aid station.
- Decontamination assets.
- Elements of the communications platoon.
- UMCP.
- Supporting elements from the FSB, MSB/DSB, or CSB.

7-34. The combat trains is located close enough to the FLOT to be responsive to the forward units; but, if possible, it should not be within range of enemy indirect fire. It generally occupies an area between the field trains and about 5 to 8 km behind the forward battery or platoon PAs. Combat trains must move often to stay in supporting distance of the firing units.

7-35. A FA battalion often establishes a UMCP to provide forward maintenance support to the battalion. The battalion maintenance technician supervises the UMCP. Under the dual trains concept, the UMCP may locate within the combat trains, especially when increased security is required. However, the unit may also establish the UMCP outside of but near the combat trains if necessary to better accomplish the mission.

Field Trains

7-36. The field trains includes those elements not in the combat trains and not required for immediate support of the batteries. It is usually in or near the BSA, DSA, CSG, or FLE. The SB (or HHSB) commander commands the field trains, which may include:

- The BSOC (which also serves as the CP for the field trains).
- PAC.
- Remaining maintenance sections (to perform scheduled maintenance and maintenance for trains elements).
- Remaining battalion ammunition trains.
- Food service sections
- Supply sections.

DETERMINING TRAINS ORGANIZATION

7-37. The commander must consider several factors when determining the trains organization.

- **Status of Unit Personnel and Equipment.** Shortages may hinder the battalion's ability to establish dual trains. This factor alone could dictate unit trains.
- **Phase of Combat.** During phases when fronts are relatively static or the battle area is condensed, unit trains may be preferable. During fast-paced offensive or defensive maneuvers, or operations over extended distances, dual trains may be advisable.

- **Survivability.** If a significant ground threat exists, the battalion should consider using unit trains, or combining the combat trains and the battalion CP to improve survivability. If air attack or indirect fire is the primary threat, dual locations increase dispersion and afford smaller targets. On a non-linear battlefield, with dispersed firing batteries, decentralization of CSS may reduce the trains to a relatively small element requiring the unit trains technique for security.
- **Location of the Support Area.** The battalion commander must consider the distance from the BSA, DSA, CSG, or FLE to the firing batteries and trains. Over short distances, the battalion can often provide responsive support from a single location. As the distance increases, responsiveness from a single location decreases. Although the use of dual trains does not decrease that distance, it decreases the turnaround time between battery and combat train locations.
- **Terrain.** Areas with paved, well-marked supply routes facilitate use of unit trains. Battalions should consider using dual trains when restrictive (e.g., mountainous or swampy) terrain slows CSS and hinders positioning or dispersal of unit trains and in desert areas where lack of natural camouflage increases vulnerability to air attack.
- **Amount of Centralization.** Decentralization of CSS to the batteries can facilitate use of unit trains if the distances are not too great. Because decentralization decreases the size of the battalion trains, dual trains may become difficult to operate and secure. Centralized CSS facilitates the use of dual trains, but can sometimes be less responsive if CSS management and coordination is not properly executed.
- **Responsiveness Versus Risk.** During wargaming and COA analysis the FA battalion commander and staff must evaluate the risk and responsiveness tradeoffs associated with dual and unit trains. If acceptable risk (within the maneuver/higher FA commander's guidance) is not achievable, the battalion commander should inform the appropriate HQs and coordinate the most effective solution possible.

TRAINS SECURITY

7-38. The HHSB (or HHB/SB) commander is responsible for trains security. When dual trains are used in units with a SB, the HHB commander is usually responsible for the combat trains and the SB commander is responsible for securing the field trains. When the battalion collocates the field trains with the BSA, DSA, CSG, or FLE, the HHSB (or SB) commander coordinates with the commander of the support area (and/or battalion) and the appropriate rear CP to integrate the battalion field trains into the overall defensive plan. In all trains areas, a perimeter defense is planned. Elements in the trains are assigned a specific sector to defend. Mutually supporting positions that dominate likely avenues of approach are selected for vehicles armed with heavy machine guns. Reaction forces and OPs are established. These are based on the unit TSOP. To enhance security, an alarm or warning system is arranged. Sector sketches, fire plans, and obstacle plans should be prepared. The HHSB commander directs rehearsals to ensure that all personnel know the parts they play in the defensive scheme.

COMMAND AND CONTROL OF TRAINS

7-39. C2 of CSS is the overall responsibility of the battalion XO. The S4 routinely coordinates all logistic operations while the S1 coordinates all personnel, administrative, and health services operations. Both follow the XO's guidance, and closely coordinate with each other. The battalion uses the ALOC, and sometimes the BSOC, as CSS C2 organizations.

7-40. When the battalion uses unit trains, it may establish only the ALOC, which will manage all CSS actions, especially if the unit trains are positioned in or near the BSA, DSA, CSG, or FLE. If the unit trains are away from the support area, the FA battalion may place a small CSS liaison element in the support area to facilitate coordination. When the battalion uses dual trains, it may establish both the ALOC and the BSOC. The BSOC, with the field trains, normally operates from in or near the BSA, DSA, CSG, or FLE.

7-41. The ALOC is the focal point of battalion CSS operations and the combat trains operations center. It should have the capability to serve as an alternate battalion TOC (less tactical FD capability). The ALOC concentrates on ammunition and POL resupply, priority equipment repair and salvage, and emergency medical care. The ALOC must:

- Stay abreast of the tactical situation (battle tracking).
- Monitor the battalion command net to identify CSS requirements.
- Receive requests, reports and requirements from subordinate elements.

7-42. ALOC personnel analyze, consolidate, and forward battalion requirements to the BSOC or to the appropriate supporting agency. The BSOC coordinates and directs elements in the field trains to take actions to meet the requirements of the forward units.

7-43. The BSOC serves as the operations center for the field trains and the key interface with supporting CSS elements in the BSA, DSA, CSG, or FLE. The BSOC coordinates all CSS actions that occur outside of the battalion. The BSOC may perform the following actions:

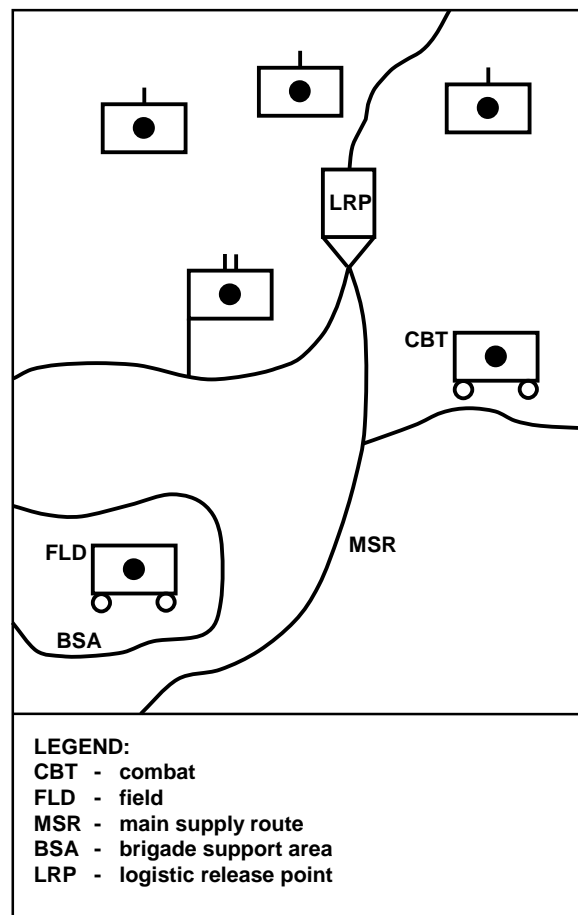
- Receipt/distribution of Class V from the supporting ATP.
- Receipt/distribution of mail and official documents.
- Receipt/preparation/distribution of Class I items (e.g., water, ice).
- Receipt/distribution of Class II, III, IV, VII, VIII, and IX from supporting CSS companies.
- Monitor repair operations performed by the supporting maintenance company.
- In-process new personnel.
- Process awards, personal and finance transactions, and legal actions.
- Provide FS planning for the rear area/CSS operations.

7-44. Both the ALOC and BSOC include S1 and S4 personnel cross-trained to ensure continuous operations. The S4, assisted by the personnel staff NCO (PSNCO), supervises ALOC operations. The S1, assisted by the S4 NCO in charge (NCOIC), usually supervises the BSOC. S6 section personnel may augment both operating centers to provide communications and automation support. Table 7-2 outlines one possible ALOC/BSOC organization.

Table 7-2. CSS Operation Center Manning

ALOC (Combat Trains)	BSOC (Field Trains)
S4 (ALOC OIC)	S1 (BSOC OIC)
PSNCO (ALOC NCOIC)	S4 NCOIC (BSOC NCOIC)
Battalion maintenance technician	Battalion maintenance officer
Ammunition officer	Ammunition NCO
Field surgeon or physician's assistant	

7-45. The ALOC and BSOC maintain control of vehicles moving forward to the logistic release points (LRPs) (Figure 7-2). The battalion TSOP establishes procedures for resupply without request in case of communications failure.

**Figure 7-2. Logistic Release Point**

TRAINS COMMUNICATIONS

7-46. Trains use a combination of FM radio, MSE, messenger, and wire for communications. The primary means for passing CSS traffic is the admin/log radio net, with the ALOC functioning as the NCS. The ALOC also relies heavily on the MSE/facsimile network.

7-47. The primary subscribers on the admin/log net are the S4, S1, HHSB (HHB/SB) commander, BMO, BAO, medical section, and others (as required). See Chapter 3 for an example admin/log net. The ALOC also monitors the FA battalion command net and supported FA/maneuver and higher HQS admin/log nets as appropriate.

7-48. Procedures for submitting routine reports (such as the personnel daily summary and the DA Form 2406 [Materiel Condition Status Report]) are established by TSOP. CSS reporting may be accomplished by any of the various C2 methods (voice/FAX/data), or in hard copy included as a part of LOGPAC operations. These reports are consolidated by the ALOC and disseminated as necessary. When messenger communications are necessary or used for hard copy backup, the battalion can prevent excessive travel by combining document and parcel delivery with CSS traffic as much as possible.

TRAINS POSITIONING

7-49. The HHSB (HHB/SB) commander coordinates with the XO, S3, S1, and S4 when selecting a trains location. The battalion must coordinate trains positions with the maneuver commander who owns the ground. It can accomplish this through a FSE at a main or rear CP, the force FA HQ, or a DISCOM/COSCOM support battalion. The basic options are: positioning the battalion trains with another element or separately.

7-50. If the FA battalion collocates its trains with another unit, it may have little input in the location. For example, if a FA battalion establishes its field or unit trains in the BSA or DSA, the brigade S4, or the division G4 and DISCOM S3, selects the location. Early planning and coordination are necessary for the FA battalion to provide input on selection of combined trains locations. Collocating the trains with the maneuver trains facilitates coordination between the FA battalion and the supporting division and/or corps CSS elements. This arrangement also enhances security for battalion CSS elements. However, turnaround time, communications, or other mission-related considerations may require location of the trains elsewhere.

7-51. In a low ground threat situation, an alternative is to position the battalion's unit (or field) trains separate from the BSA, DSA, CSG, or FLE, in a location more conducive to supporting the FA battalion. The actual locations will depend on the trains concept used and the distances involved.

7-52. Two or more FA battalions may also collocate trains elements when they operate in the same vicinity. This enhances security and potentially allows some mutual CSS support, depending on weapon system types, command relationships, and coordination. This technique is especially useful for DS/R battalions, and for nondivisional battalions operating near each other, or near a divisional FA unit.

7-53. A good trains location will have the following:

- Defensible terrain - allows selective use of limited personnel assets and avoids obstacles to CSS operations.
- Sufficient space - permits the dispersion of both vehicles and activities.
- Firm ground - supports heavy ammunition and POL vehicles.

- Landing pad - facilitates aerial resupply and medical evacuation.
- Road network - leads to the batteries and higher-level CSS elements; also, a suitable network within the position.
- Communications - extends both forward to the batteries and to rear CSS elements.
- Water source, if possible.

7-54. Built-up areas provide excellent locations for trains because they provide cover and concealment for vehicles and sheltered areas for maintenance operations at night. When built-up areas are used, trains elements should occupy buildings near the edge of the area to reduce the chance of being trapped. Seldom will a site be found that has all of the desirable traits. Priority is given to those considerations that are critical to mission accomplishment.

TRAINS OPERATIONS

7-55. The S4 is responsible for selecting battalion supply routes for resupply, evacuation, and maintenance support. Proposed routes should extend forward from the support elements/areas to the batteries. The S4, with the S3, identifies primary and alternate routes, and coordinates all routes with the maneuver unit responsible for the terrain (and for approving the routes). The S4 should also coordinate routes with adjacent combat, CS, and CSS units to avoid conflicts.

7-56. The S4, in coordination with the commander and S3, establishes CSS priorities that guide subordinate CSS leaders in executing their responsibilities. These guidelines address which supplies, resources, and units have priority, convoy size and security, supply routes used, trains mobility (uploaded ready for hasty moves, or downloaded/stockpiled), day/night movement restrictions, perimeter security, and other instructions necessary for efficient and effective trains operations.

TRAINS DISPLACEMENT

7-57. Proper positioning of trains minimizes displacements and increases the quantity and quality of support. In repositioning, the technique used to displace the trains may be the same as that used by the rest of the battalion, or may differ based on METT-TC. The trains may displace as one entity (independent of or as part of the rest of the battalion), by echelon, by section, or by infiltration.

SECTION II – PLANNING

7-58. CSS planning must address CSS support during all phases of an operation. The battalion staff develops the CSS plan concurrently with the tactical plan. Supporting CSS plans are as detailed as planning time permits. Use of TSOPs and contingency plans greatly help the CSS staff officers in the planning effort. The FASP addresses only the key what, where, when, why, and how CSS issues as well as deviations from the routine procedures established in the TSOP.

CSS PLANNING PROCESS

7-59. To develop and execute sound plans, CSS personnel must achieve and maintain a high degree of situational awareness and initiate actions well before the start of operations they are to support. Careful management of the information flow demands that information requirements be clearly identified early in the process, vigorously pursued, and shared with all involved.

LOGISTICS PREPARATION OF THE BATTLEFIELD

7-60. FA LPB is a conscious effort to identify and assess factors that facilitate, inhibit, or deny support to FA units at the tactical and sometimes operational levels. It involves a review of known EFATs for CSS tasks and the use of the S2's IPB products as an aid in analyzing the manning, arming, fueling, fixing, moving, and sustaining factors. The goal is to determine FA CSS requirements that will allow the development of a logistic estimate and feasible concept of support.

7-61. The process requires that the FA battalion commander, XO, and S3 understand data needed by CSS staff to plan and provide timely, effective support. It requires that the S1 and S4 understand the mission, the scheme of operations/fires, and battlefield time and space implications for support. The LPB is a coordinated effort which:

- Determines data requirements to support required actions.
- Identifies sources for pertinent data and collects raw or processed data.
- Analyzes collected data and develops it into decision information by assessing the impact on the mission and competing COAs.
- Integrates decision information into the MDMP by incorporating it into logistical estimates and FA plans and actions.

7-62. Sources that provide relevant logistical data include the following:

- Higher HQ briefings, plans and orders.
- FA commander's planning guidance and intent.
- Operations and intelligence briefings and overlays.
- Wargaming and rehearsals.
- MTOEs, subordinate status reports, and route reconnaissance overlays.
- Traffic circulation and highway regulation plans.

BATTALION LOGISTIC ESTIMATE

7-63. A logistic estimate, which includes LPB, is a continuous analysis of logistic factors affecting mission accomplishment. Emphasis is on how the status of CSS will impact on proposed COAs. Logistic planners use these estimates to recommend the best COA (that can be supported) and to develop plans to support the operations.

7-64. Logistic estimates at the battalion level are usually informal. As a minimum they are formulated in a briefing format that should address facts, assumptions, and conclusions in each of the following areas:

- Manning (e.g., quality of life, personnel and health service support).
- Arming (e.g., Class V status, restrictions, distribution system, RSR, CSR, and CCL).
- Fueling (e.g., Class III [bulk] status, distribution system, restrictions).
- Fixing (e.g., maintenance and Class IX status, repair times, and evacuation policy).
- Moving (e.g., status of transportation assets, critical LOC, and MSR status).
- Sustaining the soldiers and their systems (e.g., Class I, II, III [Package], IV, VI, VII, X, water, and field services status).
- COA(s) that can be supported.

7-65. Consumption factors and transportation requirements are fundamental parts of the CSS analysis. Guidance for computing these requirements can be found in:

- FM 55-15, *Transportation Reference Data*.
- FM 55-30, *Army Motor Transport Units and Operations*.
- FM 100-10, *Combat Service Support*.
- Operations Logistics Planner (distributed on two diskettes).
- TB 44-46-1, *Standard Characteristics for Transportation of Military Vehicles and Other Oversize/Overweight Equipment*.

7-66. To ensure effective support, CSS operators and planners must understand the commander's tactical plans and intent and develop plans that effectively and efficiently apply resources against requirements. General considerations include:

- Missions and tasks for each of the supported elements.
- When and how they will conduct operations.
- Current and proposed locations of the supported units, by timeline.
- The types and quantities of support required.
- The priority of support by time, type, and unit.
- The overall tactical situation and general unit status.

7-67. Support capabilities are assessed as follows:

- What CSS resources are available (organic, lateral, and higher HQ).
- Where the CSS resources are and when they will be available.
- Whether they will be delivered or must be picked up.
- Packaging, material-handling, loading, or transloading considerations.

7-68. On the basis of mission analysis, resources are compared with requirements. Shortfalls are evaluated in close coordination with operations planners to determine their effect on selected COAs.

7-69. The CSS staff must complete the CSS estimates in time for commanders to confirm the feasibility of the plan, modify plans and priorities as necessary, and calculate risks. Timely completion also facilitates the generation and coordination of supply and support requests.

PLANNING FOR CHANGING MISSIONS

7-70. Flexibility and innovation must characterize CSS planning and execution, as FA units often change missions, areas of operations, and command and support relationship during an operation. Transition from one area of operation to another normally results in a change in support areas and support elements. Therefore, units must forecast future needs with the gaining division or corps support element. Of particular interest are the planning requirements for classes V and IX and maintenance support.

- The FA battalion S4 must verify that the ATPs in its new area of operation will be able to support its requirements.
- The DISCOM/COSCOM may augment the gaining support element with authorized stockage list (ASL) push packages and maintenance support teams from the losing support element or other CSS assets.
- The battalion XO and CSS staff must ensure that adequate support is in the new location on time, without being removed from the old location too early.

SPECIAL CSS PLANNING CONSIDERATIONS

HEAVY-LIGHT FORCES MIX

7-71. Heavy-light or light-heavy force mixes make CSS arrangements especially challenging. When a FA brigade, with medium weapon systems, supports an infantry division, planners must consider that infantry division DISCOMs have little, if any, ability to provide the necessary support for the medium FA battalions. Even with COSCOM augmentation, infantry divisions have insufficient means to maintain and sustain a reinforcing SP FA battalion. In such situations, mission and/or unit specific CSS augmentation packages must accompany heavy forces' FA units. This includes POL, ammunition, and maintenance support with necessary repair parts, recovery and lift capabilities.

7-72. Class IX supplies and maintenance can also present unique CSS planning requirements. For example, a heavy division DISCOM does not have the ASL or maintenance personnel to support 105mm FA howitzer units. As FA battalions move from one brigade or division sector to another, gaining support battalions may require augmentation from losing support battalions, to include ASL push packages and additional maintenance support teams. Habitually associated maintenance support teams (MSTs) can facilitate this process. Also, COSCOM transportation assistance may be required to move ASLs from losing to gaining support units.

ARMY XXI/DIGITIZED FORCE CSS

7-73. CSS concepts and organizational structures are changing to reflect a paradigm shift from a supply-based CSS system in the past to an advanced distribution-based CSS system for Army XXI. These changes are leveraging advancements in technology and information operations.

7-74. The distribution-based CSS system combines situational awareness capabilities with efficient delivery systems to form a seamless distribution pipeline. This pipeline represents "inventory in motion" and the CSS imperative of increased velocity. In contrast, static inventories comprise a supply-based system. Storing this static inventory in large stockpiles at each echelon does not provide the mobility or flexibility required by the Force XXI maneuver commander. The Force XXI distribution-based system eliminates most stockpiles; substituting speed for mass. Logisticians control the destination, speed, and volume of the distribution system. With intranet visibility (ITV), total asset visibility (TAV), advanced materiel management, and advanced decision support system technology, Force XXI logisticians will have access and visibility over all of the items within the distribution pipeline. This visibility allows logisticians to redirect, cross-level, and mass CSS assets more effectively in support of the maneuver commander's intent. The distribution-based system gains speed through greater efficiency. Direct throughput from theater and corps to the brigade battlespace is the rule rather than the exception with distribution-based CSS. Throughput distribution bypasses one or more echelons in the supply system to minimize handling and to speed delivery to forward units. Supplies are tailored and packaged for specific supported units based on a specific time and location point of need, synchronized through support operation channels based on the combat commander's OPTEMPO. Advanced delivery platforms such as the palletized load system (PLS) and the container roll in/roll out platform (CROP), will use ITV/TAV to deliver directly from echelons above division to points as far forward as possible. Extensive use of "hub and spoke" transfer nodes will reduce transportation and material handling requirements.

7-75. Multi-functional, modular units in direct support of the combat, combat support, and combat service support units form the cornerstone of this concept and represent the CSS imperative of an agile CSS force structure. Force XXI battlefield CSS operations will provide support as close to the point of need as possible. A common operational picture coupled with information from the GCSS-A will allow the Force XXI CSS commander to anticipate requirements and project support further forward than ever before. CSS organizations will become modular, mobile, and multi-functional. They will be adaptable to support force projection and velocity of combat operations in both linear and non-linear environments.

7-76. These changes will impact FA CSS operations. FM 63-2-2, contains additional information on digitized division CSS operations.

SECTION III – LOGISTICAL SUPPORT

7-77. The four functional areas that are of primary interest for battalion logisticians are supply, maintenance, field services, and transportation.

SUPPLY

METHODS OF SUPPLY

7-78. The battalion always maintains combat-essential supplies and repair parts (basic loads and PLLs). The minimum stockage level is normally directed by division or higher. These supplies allow a unit to sustain itself in combat for a limited period without resupply.

7-79. The battalion has three methods by which to replenish its stocks:

- Supply point distribution.
- Unit distribution.
- R3P distribution.

Supply Point Distribution

7-80. In supply point distribution, unit representatives, using organic transportation, go to a supply point to pick up supplies. This is the normal method used by the battalion supply section to obtain supplies.

Unit Distribution

7-81. In unit distribution, non-organic transportation delivers supplies to a unit. The battalion often uses this method to resupply subordinate elements. When feasible, supplies are shipped directly from the issuing unit as far forward as possible. This means some supplies are issued directly to the battalion from COSCOM or theater Army level, especially classes III and VII. This issue usually occurs no farther forward than a BSA. CSS planners must consider material handling equipment (MHE) requirements for supply transfers.

7-82. The most efficient resupply of forward units is done by use of LOGPACs. LOGPACs are organized for each battery and element; usually in the unit or field trains under the supervision of the battalion S4 NCOIC (or the SB commander). They are moved forward to the LRPs daily for routine resupply. When possible, all LOGPACs are moved forward in a march unit under the control of an OIC or NCOIC. Special LOGPACs are organized and dispatched as required by the tactical situation and logistical demands. The S4 must plan and coordinate LOGPAC operations to ensure that they fully support the commander's tactical plans.

7-83. Battalion TSOPs establish the standard LOGPAC. Normally, a battery LOGPAC includes:

- POL trucks carrying bulk fuel and packaged POL products.
- Vehicles carrying additional supplies join the LOGPAC as coordinated by the S4 NCOIC and supply sergeant.

- Cargo trucks carrying Class I requirements based on the ration cycle. These may tow water trailers and carry full water cans for direct exchange. The trucks also carry supplies requested by the unit, incoming mail, replacement personnel, and other items required by the unit.

7-84. The battery LOGPAC moves forward under the control of an S4 representative. The convoy normally contains additional vehicles, such as maintenance vehicles with Class IX supplies to move to the UMCP or additional ammunition or fuel vehicles for the combat trains. The LOGPACs follow the MSR to an LRP, where the battery supply sergeant or a guide takes control of the battery LOGPAC.

7-85. The battery representative directs the LOGPAC to the locations where battery or platoon resupply occurs. The supply sergeant informs the S4 representative of requirements for the next LOGPAC. The LOGPAC returns to the LRP with outgoing mail, personnel, and identified equipment.

7-86. The S4, in coordination with the S3, determines LRP locations. Locations are based on the tactical situation and should be well forward and easily located. Normally, two to four LRPs are planned and are included on the operation overlay along with the MSR, combat trains, and field trains. The ALOC notifies subordinates and the BSOC well in advance, which LRP will be used. The battalion may establish TSOP standards for LOGPAC delivery (arrival time at the LRP) and the length of time it will remain in the battery or platoon area. If the tactical situation dictates changes, or if a LOGPAC is delayed, the S4 must notify units, the ALOC/BSOC, and the TOC.

7-87. A senior representative from the trains (S4, HHSB (HHB/SB) commander, or senior NCO) should be present at the LRP while the LOGPAC is in effect. The purpose is to meet with the supply sergeants for coordination of logistical requirements and to ensure that the LOGPAC is released and returned efficiently. A coordination meeting is normally held immediately before the supply sergeant picks up his LOGPAC. Coordination may include the following:

- Changes in logistical requirements, plans, or TSOPs.
- Battery reports on personnel, logistics, and maintenance.
- Updates on the tactical situation and logistical status.
- Delivery, receipt, and distribution of unit mail.

7-88. The S4 representative moves the LOGPAC convoy from the LRP to the unit or field trains. The battalion S4 NCOIC then begins organizing the next LOGPAC.

7-89. The HHSB (or HHB) first sergeant, normally operating from the combat trains, plans and coordinates resupply of the CP, combat trains, and attached elements. The platoon sergeant or the senior NCO at a facility must report his requirements to the HHSB (or HHB) first sergeant or to the ALOC. The methods of resupply are the following:

- Form small LOGPACs (the most desirable method). The platoon sergeant picks up LOGPACs at the LRP, as would a battery supply sergeant.

- Deliver the LOGPAC directly to the CP, combat trains, and attached elements.
- Resupply attached elements from a nearby battery LOGPAC. The S4 coordinates this resupply before dispatching the LOGPACs.

7-90. While the LOGPAC is the preferred method of resupply, other methods of resupply are sometimes required. These methods include:

- Resupply from the combat trains (emergency resupply). The combat trains has a limited amount of Class III and V supplies for emergency resupply. The S4 coordinates emergency resupply from the combat trains and then refills or replaces the combat trains assets. The S3, on the basis of recommendations from the S4 and on battalion operational requirements, determines distribution priorities for critical items. Normal supply priority is Class III, Class V, and Class IX.
- Prestocking. This is the placing and concealing of supplies on the battlefield. It is normally done during defensive operations when supplies are placed in subsequent positions (for example, ammunition for immediate consumption).
- Mobile prepositioning. This is similar to prestocking except that supplies remain on trucks, often positioned forward on the battlefield.

Rearm, Refuel, Resupply Point Distribution

7-91. This technique combines features of both supply point and unit distribution. It emphasizes Class III, V, and IX resupply, typically along the route of an extended battalion road march. However, resupply of all classes will occur whenever possible. R3P operations may also include survey update operations (R3SP). Close coordination between the S3 and S4 is essential to ensure the proper selection of the location and timing of this supply action. The S4 is responsible for the preparation of the R3P site; and coordinates with the S3 to schedule the movement of units through this site. The HHSB/HHB or SB commander or a CSS staff officer may supervise R3P operations. The battalion XO monitors all R3P planning and operations, with special emphasis on the communication and coordination between staff elements and with the firing batteries, to ensure effective, efficient operations in concert with the commander's guidance. While R3P distribution is rapid and often convenient, it does require that the unit take itself out of action to accomplish the resupply function. However, since the unit will normally perform R3P distribution in conjunction with a scheduled move, the overall loss of support capability is minimal.

CLASSES OF SUPPLIES

7-92. Each class of supply requires unique considerations, during logistics planning and operations, which helps speed requisitioning and distribution procedures. Battalion commanders and their staffs need to be aware of supply accountability procedures as presented in AR 710-2.

7-93. The FA battalion usually coordinates directly with the appropriate supply activity of the supporting division or corps support element. However, the DIVARTY or FA brigade monitors items of command interest by means of

TSOP-directed CSS reports. The following paragraphs briefly describe each class of supplies as it impacts on the FA battalion.

Class I: Rations

7-94. A battalion automatically requests Class I on the basis of daily strength reports for its units. The ALOC forwards the strength report to the BSOC or directly to the food service section (under unit trains). The food service section gets subsistence from the supporting Class I point in the BSA, DSA, CSG, or FLE. The S4 or his designated representative, in conjunction with the battery commanders, develops a feeding plan with instructions concerning how and when to feed.

7-95. Flexibility in ration cycles and meal preparation methods is necessary to effectively support fluid FA operations. Often, meal preparation is centralized in the trains location, with the senior food service sergeant supervising preparation and coordinating delivery arrangements with the ALOC. A- or B-rations are prepared in the trains and delivered to the batteries and attached elements as part of the LOGPAC. T-rations are prepared in the trains and sent forward, or they are pushed forward to the batteries and then prepared (heated) on site. The MREs stored on combat vehicles are eaten only when daily Class I resupply cannot be accomplished. The battery 1SG must monitor MRE usage to ensure prompt resupply action. At other times, especially during dispersed or non-linear operations, Class I operations may need to be decentralized.

7-96. Water is not a Class I supply item, but it is normally delivered with Class I. The battalion S4 NCOIC coordinates with the FSB, MSB, CSG, or FLE to pick up water from the designated water supply point. Water is delivered to the units by use of water trailers or blivets. Also, forward water points are tested and approved by the battalion medical officer. Each vehicle should carry water cans to be refilled or exchanged during Class I resupply and LOGPAC operations.

Class II: Supplies and Equipment

7-97. This class applies to all supplies and equipment (except cryptographic) prescribed by TOEs, common table of allowances, and PLLs. Class II supplies include clothing; individual equipment; tentage; organizational tool sets, kits, and hand tools; administrative and housekeeping supplies, and equipment (including battle dress overgarment (BDO) and decontamination items). The S4 section coordinates for pickup of Class II items from the appropriate supply element in the BSA, DSA, or CSG before normal LOGPAC operations. Expendable items, such as soap, toilet tissue, insecticide, clothing and TA-50 items, are provided during LOGPAC operations.

Class III: Petroleum, Oils and Lubricants

7-98. The brigade S4's POL forecasts form the basis for division and corps stockage levels. The FA battalion S4 section normally obtains POL from a Class III supply point in the BSA, DSA, CSG, or FLE. Batteries are not required to submit formal requests for POL and packaged products resupply, unless the products are unique or quantities unusually high. When necessary, the batteries send their requests to the ALOC.

7-99. POL tankers move forward with each LOGPAC. Each tanker may also carry packaged POL products. Depending on the tactical situation, DISCOM or COSCOM fuel vehicles may deliver fuel to the combat trains area. Battery refueling operations may be carried out in one of three ways:

- Fuel trucks move to each section or vehicle position.
- Each section or vehicle moves to a centrally located refuel point.
- Vehicles refuel during movement from one position to another.

7-100. Combat refueling (the use of 5-gallon cans) is an alternative to the above methods. It is slower; however, it may be required in some circumstances when bulk refueling is not available or feasible. The battalion TSOPs should prescribe procedures for all types of refueling. These procedures should be practiced during field training.

Class IV: Construction and Barrier Materials

7-101. This class of supply includes consumable items such as construction and fortification material and the lightweight camouflage support system. Requisitions for regulated Class IV items (fortification and barrier material) are submitted through command channels. Non-regulated items (small quantities of nails and common electrical, plumbing and similar hardware items) are requested or obtained from the appropriate support activity, of the supporting division or corps support element.

Class V: Ammunition

7-102. Some common ammunition terms include the following:

- The unit basic load (UBL) is that quantity of ammunition authorized and required to be on hand in a unit to meet combat needs until resupply can be accomplished. The UBL cannot exceed the haul capacity of the unit's organic vehicles. If the UBL exceeds the unit's organic haul capability, the battalion should notify its higher FA HQ immediately for assistance in resolving the situation. The basic load, specified by the theater army for the FA, is expressed in rounds, units, or units of weight, as appropriate. UBL size and composition are based on mission, enemy, and type unit supported, and normally varies among FA units.
- The RSR is the amount of ammunition a commander estimates will be needed to sustain tactical operations, without ammunition expenditure restrictions, over a period of time. The RSR is expressed as rounds per weapon (on hand) per day, or as a bulk allotment per day or per mission.
- The CSR is the rate of consumption of ammunition that can be allocated, considering the supplies and facilities available, for a given period. It is also expressed in rounds per weapon per day. Each tactical commander announces a CSR to the next subordinate tactical commander. The CSRs may be published in the OPORD or as a FRAGO. They may be included in the FSP or the FASP. To exceed its CSR, the battalion must obtain permission from the next higher commander, except in an emergency.

- Ammunition for immediate consumption is ammunition drawn for a specific purpose, such as a preparation. This ammunition is drawn in addition to the CSR. It is drawn to be expended within the next 24 hours and is considered expended when issued. If circumstances preclude expenditure as planned, the battalion must report this ammunition as excess daily until it is expended or reallocated.
- Ammunition transfer points are temporary sites where Class V materiel is transferred from corps or division transportation to issuing unit vehicles. ATPs, run by division or corps support units, are usually found in or near BSA, DSAs, CSGs, or FLEs.
- An ammunition supply point is an area designated to receive, store, and issue Class V material. It is normally located at or near the DSA or CSG and is operated by a corps ammunition company.
- A CCL is a single or multi-type load of ammunition built to the anticipated or actual needs of a firing unit, thereby facilitating throughput to the lowest echelon. CCLs are often designed to fit standard transportation assets and for transportation as a single unit. FA ammunitions are packaged and delivered in completed rounds (e.g., fuzes, primers, propellants and projectiles) and rocket or missile pods. See Table 7-3 for FA examples of CCLs.

Table 7-3. FA Sample CCL Packages

EXAMPLE PACKAGE G				
#	DODIC	NOMENCLATURE	QUANTITY	PERCENT
1.	D544	M107/M795 HE	4 Pallets (32 Projectiles)	18
2.	D563	M483A1 DPICM	18 Pallets (144 Projectiles)	82
3.	D541	M4, WH Bag,	2 Pallets (168 Prop Chgs)	74
4.	D533	M119A2, RB	2 Pallets (60 Prop Chgs)	26
5.	N340	M739, Fuze, PD	1 Box (16 Fuzes)	9
6.	N463	M728, Fuze, VT	1 Box (16 Fuzes)	9
7.	N289	M762, Fuze, ET	9 Boxes (144 Fuzes)	82
8.	N523	M82, Primer	1 Box (500 Primers)	100+
TOTAL WEIGHT: 13 Short Tons				
EXAMPLE PACKAGE J, SMOKE				
#	DODIC	NOMENCLATURE	QUANTITY	PERCENT
1.	D528	M825 Smoke	20 Pallets (160 Projectiles)	100
2.	D541	M4, WH Bag	1 Pallet (84 Prop Chgs)	53
3.	D533	M119A2, RB	4 Pallets (120 Prop Chgs)	75
4.	N285	M577, Fuze, MT	10 Boxes (160 Fuzes)	100
5.	N523	M82, Primer	1 Box (500 Primers)	100+
TOTAL WEIGHT: 12 Short Tons				

RSR Calculation

7-103. The RSR is the battalion's estimate of the amount of ammunition it will require for an operation. Determining the RSR is the responsibility of the battalion S3 and can be accomplished in a number of ways. These include personal experience, historical data from similar battles, and use of automated planning factors on the Operations Logistics Planner's diskettes. RSR reporting requirements may verify with TSOP and the tactical situation. Generally, the RSR is submitted through the supported maneuver force or senior FA HQs, with information copies to appropriate HQs. All RSRs are consolidated and reviewed at higher HQ, and used in determining the CSR for each unit. The FA battalion will generally receive its CSR through the same channels that it reports its RSR.

7-104. The manual method discussed here provides a method in computing an RSR for artillery ammunition. To determine the RSR, use the following steps:

- Step 1 - Determine the level of the operation using Table 7-4.

Table 7-4. Levels of Operation

LEVELS OF OPERATION			
Level of Operation	Percent of Commitment		Commitment of Higher HQ Reserves
	Maneuver	Fire Support	
Heavy	60+	100	Probable
Moderate	30+	50+	Not Anticipated
Light	30-	50-	No

- Step 2 - From Table 7-5, select the type of weapon system for which the RSR is being calculated. Rounds are expressed in number of rounds per tube per day (rounds/tube/day).
- Step 3 - Select the type of operation and level of operation in Table 7-5. If the type of operation is not listed, use the conversion table listed in Table 7-6.
- Step 4 - Compute ammunition requirements for the operation by using Table 7-5:
 - Day 1: Number of rounds required for the first day extracted from the first day column in the table.
 - Day 2-4: Number of rounds from the succeeding days column multiplied by the number of days to be computed (see Note (1), Table 7-5).
 - Day 5: Average the number of rounds from the succeeding and protracted days for the weapon system (see Note (1), Table 7-5).
 - Day 6-15: Number of rounds from the protracted days column multiplied by the number of days (see Note (1), Table 7-5).

Table 7-5. Daily Ammunition Requirements-Rounds Per Weapon and STON (Example)

Type of Operation	Level of Operation	First Day		Succeeding Days (1)		Protracted Period (2)	
		Rounds	STON(3)	Rounds	STON	Rounds	STON
105mm Howitzer							
Covering Force	1-Heavy	491	16.8	511	17.5	198	6.8
	2-Moderate	319	10.9	332	11.4	129	4.4
	3-Light	172	5.9	179	6.1	69	2.4
Defense of Position	1-Heavy	423	14.5	467	16.0	222	7.6
	2-Moderate	275	9.4	304	10.4	144	4.9
	3-Light	148	5.1	163	5.6	78	2.7
Attack of Position	1-Heavy	376	12.9	381	13.0	210	7.2
	2-Moderate	244	8.4	248	8.5	137	4.7
	3-Light	132	4.5	133	4.6	74	2.5
155mm Howitzer (Divisional)							
Covering Force	1-Heavy	254	17.2	274	18.6	174	11.8
	2-Moderate	165	11.2	178	12.1	113	7.7
	3-Light	89	6.0	96	6.5	61	4.1
Defense of Position	1-Heavy	203	13.8	207	14.0	183	12.4
	2-Moderate	132	9.0	135	9.2	119	8.1
	3-Light	71	4.8	72	4.9	64	4.3
Attack of Position	1-Heavy	146	9.9	153	10.4	140	9.5
	2-Moderate	95	6.4	99	6.7	91	6.2
	3-Light	51	3.5	54	3.7	49	3.3
155mm Howitzer (Nondivisional)							
Covering Force	1-Heavy	309	21.0	333	22.6	212	14.4
	2-Moderate	201	13.6	216	14.7	138	9.4
	3-Light	108	7.3	117	7.9	74	5.0
Defense of Position	1-Heavy	227	15.4	235	15.9	199	13.5
	2-Moderate	148	10.0	153	10.4	129	8.8
	3-Light	79	5.3	82	5.6	70	4.7
Attack of Position	1-Heavy	176	11.9	183	12.4	170	11.5
	2-Moderate	114	7.7	119	8.1	111	7.5
	3-Light	62	4.2	64	4.3	60	4.1
NOTE: (1) Succeeding days are the second, third and fourth days of the battle. For the fifth day ammunition requirements, take the average of the succeeding days rate and the protracted rate.							
(2) Protracted period refers to days 6 through 15. For estimating ammunition requirements for periods greater than 15 days, use rates provided in SB 38-26, as amended by DA message 262258Z Aug 76.							
(3) Short tons (STONS) are computed based on total weight per complete round: 105mm - 68.5 lb/rd , 155mm - 135.7 lb/rd							

Table 7-6. Conversion Factor Table

TYPE OF OPERATION	CONVERSION FACTOR
Attack of position	100% of attack of position (deliberately organized)
Covering Force	100% of defense of position
Inactive Situation	80% of protracted period
Meeting Engagement	200% of protracted period
Pursuit	40% of protracted period
Retrograde Operation	59% of defense of position (succeeding days)
Assault of Hostile Shore	100% of defense of position (succeeding days)

- Step 5 - Beyond day 15, use SB 38-26.
- Step 6 - Divide the total rounds by the number of days in the operation. This will give the number of rounds/tube/day.

EXAMPLE

Divisional 155mm battalion conducting a heavy level, attack of position for **10 days**.

Requirement: Compute the RSR.

Day 1:	146
Days 2-4:	459 (153 x 3)
Days 6-10:	700 (140 x 5)
Day 5:	$\frac{146 \cdot ((153 + 140)/2)}{1}$
	1451 Total Rounds

Answer = **145 Rounds/Tube/Day** for this operation.
 $1451/10$ (Total rounds divided by the total days)

Ammunition Resupply

7-105. The FA ammunition system involves the supply and expenditure of all ammunition that FA battalions are equipped to fire. Small-arms ammunition constitutes an insignificant portion of FA battalion daily tonnage requirements. It can be handled routinely with normal ammunition resupply. Thus a FA battalion focuses on its artillery ammunition.

7-106. The FA battalion S4 plans for and supervises Class V operations and the BAO supervises resupply operations. The S3, S4, and BAO must continually coordinate and exchange information concerning ammunition. Each must know the RSR submitted to higher HQ, the CSR established by higher HQ, and the authorized basic load. This information is provided to the battalion and battery commanders so they can plan resupply operations and set priorities.

7-107. Most of the ammunition in a theater is distributed through the corps storage areas (CSAs), which serve as the focal points of the corps ammunition system. Each corps will usually establish a CSA in the corps rear area and one behind each committed division. Allocation depends upon METT-TC and the size of the corps' stockage objective. CSAs provide corps-wide ammunition support. They serve as the primary source of high-tonnage ammunition for the division. Based on divisional forecasted needs, CSA personnel configure CCLs and ship ammunition to ASPs and ATPs. CSAs also provide support to units operating in the rear of the corps rear area as well as support for reconstitution operations.

7-108. The corps also establishes up to three ASPs and an ATP (the division RATP in the DSA) in each division rear area to support combat units and division ATPs. On occasion, the COSCOM may establish ASPs farther forward in the division area, especially when supporting covering force operations. The division operates up to four ATPs (one for each maneuver brigade, and one for the aviation brigade). The ATPs usually receive the

majority of their ammunition in CCLs delivered directly from the CSA, with the remainder coming from the ASP.

7-109. The CSAs receive ammunition from the port and TSA in both breakbulk and containerized shipments, and in various load configurations. In the CSA, corps ammunition units configure much of the ammunition into standard CCLs specifically designed to fit on available transportation assets, such as PLS flatracks, or into mission/unit specific CCLs, often for throughput delivery. A smaller amount of ammunition may remain in breakbulk, container, or single DODIC configuration. The ammunition is stored or sent forward to the ATP, or ASP, or delivered directly to the field trains of FA units (METT-TC dependent). CCLs may also be configured in an ASP or ATP. As much as possible, downloading and handling of ammunition is kept to a minimum. An overview of the Class V distribution system is at Figure 7-3.

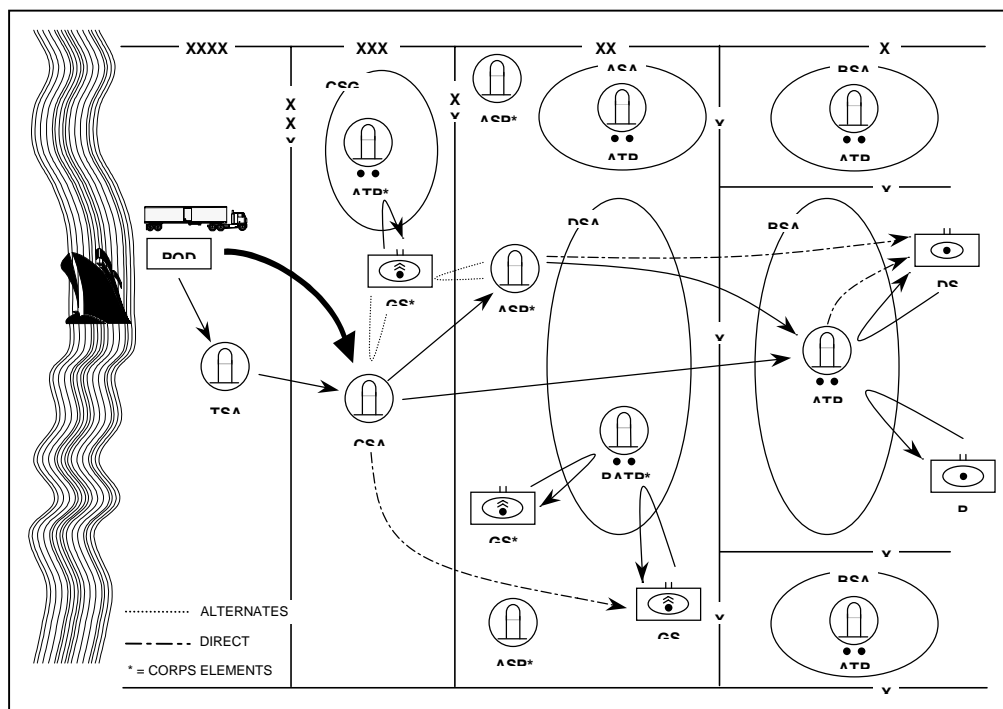


Figure 7-3. Class V Distribution

7-110. A FA battalion will submit its ammunition requests directly to the support operations officer of the supporting division or corps support battalion in the BSA, DSA, CSG, or FL, or to the supported maneuver S4 or senior FA HQs, depending on the situation and command/support relationships. Division and corps ammunition officers consolidate requests, verify CSRs can support the requests, and provide instructions on where and when the ammunition can be picked up or will be delivered.

7-111. A FA battalion will usually obtain Class V from an ATP operating in or near a BSA, DSA, CSG, or FLE. However, it may also obtain some or all of its ammunition from a corps ASP, or even directly from a CSA in some cases.

Also, with throughput distribution, corps and division assets may deliver ammunition directly to the battalion trains. This may be accomplished by vehicle, helicopter, or even parachute. Infrequently, the battalion may pick up ammunition directly from a seaport or airport.

7-112. At the designated ammunition site, FA battalion ammunition vehicles often have to go to only a single vehicle or trailer to get the items needed (because of CCLs). These are primarily transload operations using organic MHE. For FA cannon units this consists of pallets with complete rounds versus going to different trailers for each component, e.g., projectile, propellant, primers and fuzes. However, some ammunition may be picked up as individual items, or may require manual, forklift, or other handling procedures. For MLRS units ammunition transload involves launch pod containers.

7-113. Also, the ammunition vehicles used by the corps and division ordnance and transportation units may not match the battalion's ammunition vehicles one-for-one for cargo space. The S3, S4, and BAO must consider this when coordinating CCL requests. If overall quantity is important, CCLs should be built to maximize corps (or division) transportation assets and delivery to the ATPs. If rapid transloading or through-put delivery of a critical or low-density ammunition directly to an end-user is more important, the S4 must thoroughly coordinate the preparation, loading, and delivery of those CCLs at the ASP/ATP. They should be clearly marked during transit.

7-114. The FA battalion S4 should coordinate early with the support battalion or ammunition element to identify non-transload ammunition handling requirements and the availability of additional MHE support. The S4 should identify this before the battalion's ammunition sections depart the battalion trains so that additional personnel or equipment can be added as necessary and ammunition leaders briefed prior to departure for the ammunition point. This also gives the ammunition point leaders time to ensure that ATP/ASP organization and operations will meet the battalion requirements.

Battalion Ammunition Resupply

7-115. Normally, the BAO of each FA battalion is responsible for the resupply of the firing batteries. He must know all aspects of ammunition availability at the ATP or ASP, the battalion's RSR and CSR, and the locations (present and future) of the firing batteries and resupply points. He obtains this information from the OPORD (e.g., support annex, FASP) and close and frequent coordination with the battalion S4/ALOC and/or S3/operations section. The BAO can best perform coordination and management functions from the combat trains. The battalion XO or S4 NCOIC (or SB commander) must coordinate with the brigade S4, the DAO representative at the ATP, or the CSG representative at the ATP or ASP to ensure that correct locations, procedures, and handling requirements are identified and agreed upon.

7-116. The BAO plans how to most effectively use the batteries' ammunition hauling assets and how to use and control convoys for ammunition pickup and delivery. The load plans for each vehicle must allow for the delivery of CCLs and complete rounds and make maximum use of organic carrying capacity. In coordination with the S3 and S4, the BAO carefully plans for the

delivery of the appropriate types and lots of ammunition to the right locations and the designated times. The capability of the battalion to mass fires must not be compromised by Class V incompatibility. Other aspects that must be considered include the following:

- The size of a convoy depends on the tactical situation and the level of training of ammunition personnel. If the unit is in heavy contact or the enemy has a good moving-target-acquisition capability, infiltration by groups of two or three vehicles may be best. Other situations (darkness, surge, or peak requirements) may dictate the use of larger convoys.
- Each convoy, regardless of size, must have one person in charge and a designated succession of control.
- Battery assets should be used and controlled consistent with the resupply option selected.
- Each firing battery reports the arrival of an ammunition convoy to the battalion operations section.
- Ammunition carrier loads must be configured to carry complete rounds of ammunition or proper launch pod loads.
- A series of standardized, preconfigured ammunition loads should be developed and the ammunition sections trained to use them. This allows flexibility and saves time when briefing crews and transloading.

7-117. On demand, ammunition is sent to a firing battery. There the XO, platoon leader, FDO, chief of firing battery, or platoon sergeant signs a hand-receipt for ammunition received. The battery is responsible for supervising and directing issue of ammunition to the firing sections. All ammunition supplied by an ammunition supply point will be signed for on a DA Form 581 (Request for Issue and Turn-in of Ammunition) or for training ammunition on DA Form 5515 (Training Ammunition Control Document).

7-118. Technological advancements in real-time forecasting of Class V sustainment requirements allow more effective ammunition planning. In addition, throughput distribution of Class V, packaged to weapon system requirements, reduces the need for high stockage of ammunition at ASP and the extent of ATP operations.

Class VI: Personal Demand Items

7-119. Class VI includes personal items sold through post exchanges (PXs). Requests for support are submitted by the S1 through administrative channels when PXs are not available. In some cases, ration supplementary sundry packs are issued along with normal ration distribution.

Class VII: Major End Items

7-120. The issuing of major end items (howitzers and ammunition carriers) is closely controlled through command channels. Issue priorities for the replacement of battle or other losses are based on item availability, unit mission, and the tactical situation. The DISCOM or COSCOM processes requests (usually in the form of battle loss reports) from requesting units. Class VII items may not be available in the early periods of a conflict because of limited pre-stocks and the lack of supply lines. These items may be delivered to the battalion, or the battalion may be required to pick up the

items from a designated support unit. In some cases, weapon system replacement items (howitzers) may be provided to the battalion with crew, fuel, and ammunition, preferably during routine LOGPAC operations. Weapon system replacement operations (WSRO) are discussed in detail later in this chapter.

Class VIII: Medical Supplies

7-121. FA battalions obtain medical supplies through medical channels. A divisional battalion medical section gets supplies from the divisional clearing station in the BSA or DSA. A nondivisional battalion may obtain its supplies from a divisional clearing station or from corps medical assets in a BSA, DSA, or CSG. The battalion medical section provides organizational maintenance for medical items. Maintenance above this level is obtained by evacuating equipment through medical channels to the medical company in the BSA or to a comparable COSCOM element. For organizational maintenance, the medical section also stocks medical repair parts.

Class IX: Repair Parts

7-122. The FA battalion stocks repair parts based on a PLL. The battalion equipment maintenance clerk orders and stocks high-demand and combat-essential repair parts for vehicles, weapons (artillery and small arms), NBC equipment, and food service equipment. The battalion S6 section (or communications platoon) orders and stocks repair parts for C-E equipment.

7-123. Repair parts are issued in response to a specific request or by repairable (direct) exchange. The battalion gets repair parts from the Class IX supply point in the BSA, DSA, CSG, or FLE. Parts are moved forward during routine LOGPAC operations or as required to the UMCP. The maintenance section requests Class IX items (less repairable exchange) and major Class IX subassemblies, such as engines and transmissions. It submits requests to the supporting division or corps maintenance element of the appropriate support battalion (in the BSA, DSA, CSG, or FLE). Repairable exchange for selected items (including components and subassemblies) is handled as a simple exchange of the unserviceable item (with an attached request for issue or turn-in) for a serviceable item. In combat, exchange and cannibalization are the norm to obtain critical Class IX supplies.

Class X: Material to Support Non-military Programs

7-124. Material to support non-military programs, such as agriculture and economic development, is not included in Classes I through IX. Class X items are requested and obtained by the S4 on the basis of civil-military requirements. Specific instructions for request and issue of Class X supplies are provided by division or higher.

MAINTENANCE

7-125. Maintenance involves inspecting, testing, servicing, repairing, requisitioning, and recovering equipment. The FA battalion completes repair and recovery as far forward as possible, at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for

repair. When all maintenance requirements of the battalion cannot be met, the XO determines maintenance support priorities for subordinate units. These priorities are based on operational requirements of the battalion and on recommendations of the S3, S4, and BMO.

7-126. Common maintenance terms include the following:

- A **MST** is a mobile team from the FSB, MSB, or CSG maintenance company organized and equipped to provide forward support.
- A **UMCP** is a facility established by the battalion maintenance section to collect equipment awaiting repair, evacuation, controlled exchange, or cannibalization. It is the first point to which battery maintenance teams recover equipment and at which some DS maintenance is performed. It is located next to the combat trains.
- **Controlled exchange** is the removal of serviceable parts, components, or assemblies from unserviceable, economically repairable equipment and their immediate reuse in restoring a like item to combat-operable or serviceable condition.
- **Cannibalization** is the authorized removal of parts or components from uneconomically non-repairable or disposable end items or assemblies and making them available for reuse.
- **Battlefield damage assessment and repair (BDAR)** is the act of inspecting battle damage to determine its extent, classifying the type of repairs required and determining the procedure best suited to make the equipment mission-capable. BDAR may involve the immediate repair of equipment by field-expedient methods; however, BDAR procedures shall be used only in combat, at the direction of the commander.
- In FA battalions with consolidated CSS, the **battery maintenance team** is a team from the maintenance platoon that is organized and equipped by MTOE to provide forward unit maintenance support. Normally, the team deploys a recovery vehicle and a maintenance truck forward with the battery, split between each platoon (when applicable). In battalions with a decentralized CSS structure the batteries have their own organic maintenance sections.

MAINTENANCE CONCEPTS

7-127. The following battlefield maintenance concepts illustrate how echelons overlap to provide continuous maintenance support to the batteries.

7-128. The BMO task-organizes the maintenance platoon according to his analysis of current and anticipated requirements. He is concerned with providing the appropriate support at battery, UMCP, CP, and trains locations.

7-129. Normally, (in centralized CSS battalions or during centralized CSS operations) the battalion provides each battery its habitually associated maintenance team. Usually, the battalion's recovery vehicles are positioned forward with each firing battery but remain under battalion control. This provides a quick-fix capability for those items that can be repaired in less than two hours and a recovery capability for those items requiring more extensive repairs.

7-130. The battalion normally establishes the UMCP next to the combat trains. It includes the maintenance platoon HQ (-), HHSB (or HHB) maintenance team and PLL, number 2 common tool kit and welding equipment and the DS MST (-). The BMO task organizes the UMCP according to the maintenance requirements and the tactical situation. The UMCP cannot become a collection point for non-operational vehicles to the extent that it cannot move with an hour's notice. Anything that cannot be repaired in the UMCP or that cannot be towed by UMCP assets is recovered to the field trains or sent directly to the FSB maintenance company in the BSA. The battalion maintenance technician (BMT) and the senior maintenance supervisor supervise the UMCP.

7-131. The rest of the maintenance platoon is in the field trains (or the unit trains) under the control of the BMO and the battalion motor sergeant. The battalion maintenance platoon organizes to support six elements - three firing batteries, the CP, the combat trains and the field trains (or unit trains) as follows:

- Each of the three firing battery maintenance trucks and PLL trailers provides tools and repair parts to support one battery. These vehicles also transport packaged POL to support repair operations. The HHSB maintenance truck carries tools and PLL to support the vehicles habitually located in the trains and at the CP. (In units with an HHB and SB, using dual trains, HHB maintenance supports the CP and combat trains while the SB maintenance truck with PLL items supports the vehicles and equipment located in the field trains.)
- The BMO sets direct support maintenance element priorities. Since the maintenance elements are equipped and trained to support the unit, task-organizing DS maintenance assets is not routine. The PLL parts, special tools, and test sets are not easily split.

<p>NOTE: Direct support FA battalions organic to light divisions do not have the personnel or equipment assets to completely implement the procedures as described. However, the concept is valid for light units and must be adjusted on the basis of the unit's organic capabilities.</p>
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7-132. The battery maintenance vehicles are in the forward platoon locations. These vehicles carry the toolboxes, unit-level technical manuals, a limited number of special tools, and repair parts.

7-133. If a damaged vehicle cannot be repaired within two hours, it is recovered to the UMCP or the field/unit trains by the forward-positioned recovery vehicles. Recovery vehicles are directed by battalion maintenance to support recovery operations regardless of battery affiliation.

7-134. Maintenance elements from the FA battalion, FSB, MSB, or CSB repair damaged vehicles recovered to the UMCP. When not involved in on-site repairs, the battery maintenance teams may also repair vehicles in the UMCP. This is especially true of work requiring diagnostic test equipment that cannot be taken into the forward positions.

7-135. Vehicles that the unit can't repair within six hours, or if their repair would otherwise overload the capability of the UMCP, are recovered to the field/unit trains or taken directly to the FSB, MSB, CSB, or CSG collection

point for repair. This recovery is done by the battery or battalion maintenance recovery vehicles, or with heavy equipment transporters (HETs). The use of HETs applies to FA units equipped with tracked vehicles. The BMT coordinates and directs the method to be used. The use of HETs is preferred; however, road conditions and availability restrict their use. HETs are requested through the FSB, MSB, CSB, or CSG. Some crew members go with the recovered vehicle to the rear to help mechanics repair the vehicle and return it to the unit when repaired. They also man operational weapon systems on the vehicle to provide additional security to rear areas. Installed C-E equipment remains in the vehicle when it is evacuated. Crewmen not going with the vehicle remove personal equipment and any special equipment before the vehicle leaves the area.

7-136. The UMCP usually displaces with the other elements of the combat/unit trains. During periods of frequent displacement, the BMT may direct that the UMCP displace by echelon. In this case, some personnel of the maintenance platoon, including the BMT, complete repair on vehicles at the old UMCP before displacing. Maintenance platoon assets not involved in repairs move with the rest of the combat trains and establish the forward UMCP. During rapid forward moves, such as exploitation, the UMCP conducts only essential repairs and simple recovery. Other disabled vehicles are taken to collection points on the MSR to be repaired or evacuated. Field trains and the maintenance elements of the FSB, MSB, CSB, and/or CSG displace forward to subsequent locations. The BMT coordinates the repair or evacuation with the battalion motor sergeant in the field trains.

7-137. In the field/unit trains, remaining elements of the battalion maintenance platoon perform other tracked and wheeled vehicle maintenance and class IX resupply. The battalion motor sergeant coordinates requirements with the S4 (and HHSB/SB commander) and with the maintenance element of the FSB, MSB, CSB, or CSG. He also coordinates maintenance requirements with the parent HQ of any attached or supporting elements working with the battalion.

FIELD SERVICES

MORTUARY AFFAIRS

7-138. Mortuary affairs services are provided by the MSB or CSG supply and service company. Mortuary affairs at battalion level consist of three functions: collection, identification, and evacuation. The soldier who has knowledge of the casualty should usually complete the appropriate forms. Subordinate elements send the forms to the field/unit trains with the returning LOGPAC. Unit personnel collect any military equipment and turn it over to the supply sergeant for forwarding during LOGPAC operations. Remains are placed in a human remains pouch, along with personal effects, and evacuated to the field trains. The battalion may establish a collection point, if necessary, at the combat/unit trains under the control of the S4. In any case, the unit should evacuate remains as quickly as possible to the collection point in the BSA, DSA, CSG, or FLE.

SHOWER, LAUNDRY, AND CLOTHING REPAIR

7-139. The MSB, CSB, CSG or FLE may provide shower, laundry, and clothing repair services. The FA battalion S4 requests clothing exchange (or gratuitous issue), laundry, and shower service through the brigade S4, FSB, MSB, CSB or CSG. The request must specify:

- The location of the unit making the request.
- The desired time for service.
- The range of clothing sizes for unit members.

7-140. The requesting unit must be prepared to furnish soldiers to help set up the shower, laundry, and clothing repair operation. Normally, there is one shower, laundry, and clothing repair service point per BSA, DSA, and CSG.

SALVAGE

7-141. The supporting CSS element will also provide salvage services. Salvage collection points are established in the BSA, DSA, CSG and FLE. They receive serviceable, unserviceable (repairable), discarded, abandoned, and captured supplies and equipment. The salvage point will not accept COMSEC or medical supplies, toxic agents, radioactive materials, contaminated equipment, aircraft, ammunition, and explosives.

LAUNDRY AND RENOVATION

7-142. COSCOM provides laundry and renovation services when the tactical situation permits. This service is coordinated through the brigade S4.

TRANSPORTATION

7-143. Should the FA battalion require transportation support beyond its organic capabilities, the S4 forwards a request to the maneuver brigade, or force FA HQ S4. They forward the request to the movement control officer (MCO) at the DISCOM or COSCOM. The MCO makes a determination based on requirements and existing priorities.

SECTION IV – PERSONNEL AND HEALTH SERVICES SUPPORT

7-144. Personnel and health services support functions sustain the morale and welfare of the soldier. At battalion level, these include personnel and administrative (P&A) services, legal services, finance services, postal services, chaplain activities, health services support, and EPW support.

PERSONNEL AND ADMINISTRATIVE SERVICES

S1 FUNCTIONS

7-145. P&A services are the responsibility of the battalion S1. The duties include the following:

Strength Accounting

7-146. Batteries and attached elements submit a personnel daily summary report to the S1 representative in the ALOC. The S1 forwards a battalion consolidated report to or through the maneuver brigade and/or force FA HQ S1. The S1 representative provides the TOC and PAC (in the field trains) with an information copy. These reports are the basis for individual replacements and Class I resupply. Accurate strength reports also give the commander and staff information to plan operations. Battalion TSOPs usually describe daily reporting requirements. Personnel strength reports should prominently note any critical skill shortages.

Casualty Reporting

7-147. The S1 ensures that both strength and casualty reporting are timely and accurate. Initial reports are usually verbal or plain text message. Written reporting occurs as soon as possible after the event. The section chief or any individual having knowledge of the incident initiates it. The DA Form 1156 is carried by all small-unit leaders and is used to report battle and nonbattle casualties. It provides initial information for notifying next of kin and for paying benefits. When a soldier is reported missing or missing in action or when the remains are not under US control, a DA Form 1155 goes with the DA Form 1156. The first sergeant collects the reports and forwards them to the ALOC. The S1 cross-checks the reports, requests any needed clarification, adjusts unit strength reports, and forwards the reports through the PAC to the maneuver brigade and/or force FA HQ S4 and informs the battalion TOC.

Replacement Operations

7-148. The PAC monitors replacement flow. The battalion S1 establishes a replacement receiving point (RRP) (usually in the field trains) and notifies the maneuver brigade and/or force FA HQ S1 of its location. All replacements or hospital returnees are brought to the RRP for initial processing. The division or corps adjutant general is normally responsible for delivering replacements to the RRP. Replacements are briefed on TSOPs and equipped with weapons and field gear before leaving the trains. They normally move forward to their unit with a LOGPAC.

Other Administrative Services

7-149. During lulls in the battle, the S1 and PAC complete all other P&A actions necessary. Special consideration is given to timely processing of awards and decorations.

LEGAL SERVICES

7-150. The S1 section coordinates legal services support for commanders, staffs, and soldiers. The division or corps staff judge advocate sections provide the actual support to the FA battalion on a GS basis. The support includes:

- Legal advice to commanders on all matters involving military law, domestic law, foreign law, international law, and administrative proceedings.
- Representation to soldiers accused and/or suspected in military justice matters and to personnel pending adverse military personnel action.
- Advice to soldiers on complaints, reports of survey, and the right to silence in administrative proceedings.
- Legal assistance to soldiers on personal civil legal matters.

FINANCE SERVICES

7-151. Mobile pay teams from the corps area finance support unit provide finance support to the FA battalion. During low-intensity operations, the mobile pay teams provide personal check cashing services and/or make combat payments to soldiers in amounts established by the theater army commander or in lesser amounts if the soldier so desires. The force FA commander may establish an amount less than the maximum for personnel assigned, depending on the tactical situation and the needs of the soldier. When and where the soldier is paid are determined by the commander and coordinated by the S1.

POSTAL SERVICES

7-152. A postal element, assigned by the corps DS postal company, receives and separates mail by battalion and then turns it over to the maneuver brigade or next higher FA HQ S1. The battalion mail clerk receives and sorts the mail by task organization. He distributes it to the unit supply sergeant (assistant mail clerk), who delivers it to the first sergeant or to the soldier himself (accountable mail) during LOGPAC resupply.

CHAPLAIN ACTIVITIES

7-153. The unit ministry team (UMT) (one chaplain and one chaplain's assistant) facilitates and coordinates religious support across the battalion AO. The UMT often operates out of the combat trains, however it positions itself based on its mission and METT-TC. The UMT may move forward with LOGPACs when visiting batteries or other battalion locations. This team is dedicated to serving the spiritual needs of soldiers. The UMT coordinates with all staff members, to include the S1, who receives messages and requests for religious support and ensures the necessary UMT information is published in paragraph 4 of the FASP. The UMT mission includes:

- Providing worship opportunities.

- Administering sacraments, rites, and ordinances.
- Providing pastoral care and counseling.
- Advising the commander and staff on matters of religion, morals, and morale.
- Ministering to casualties and those suffering battle fatigue.
- Providing spiritual fitness training to enhance soldier morale and unit cohesion.
- Routinely visiting unit soldiers in nearby hospitals.

HEALTH SERVICES SUPPORT

PLANNING

7-154. Battalion health services support is planned by the medical section OIC (battalion field surgeon or physicians assistant) and the S1. The battalion medical section provides the service. The FSB, MSB, CSB, or CSG medical company provides backup support. To support battalion operations, the field surgeon or physician's assistant and the supporting medical operations officer must understand the scheme of maneuver as well as the medical support plan.

ORGANIZATION

7-155. The FA battalion medical section is organized with a treatment team, an ambulance team, and a combat medic section. This organization allows quick evacuation of wounded soldiers for treatment by trained medical personnel within 30 minutes of the time they are wounded. The medical section in light units consists of the medical treatment team and a combat medic section. The medical treatment team establishes the battalion aid station, which operates from the combat trains. The ambulance team also operates from the BAS.

7-156. Combat medics habitually work with the same battery. It is often necessary to augment these medics with soldiers who have received intense medical training (combat lifesavers). The goal is to train one combat lifesaver per section throughout the battalion.

FUNCTIONS

7-157. The functions of the platoon medic are to:

- Provide emergency medical treatment and protection for the sick and wounded.
- Assist section crews in evacuating injured crewmen from their vehicles.
- Provide medical evacuation.
- Initiate field medical cards for the sick and wounded, and time permitting, complete cards for deceased personnel.
- Screen, evaluate, and treat patients suffering from minor illnesses and injuries; return to duty patients requiring no further attention; and notify the first sergeant of those requiring evacuation to the BAS.

- Inform the battery commander and the battalion surgeon of the status of patients seen and the overall status of health and welfare of the platoon.
- Train unit personnel self-aid and buddy aid.
- Provide trained combat lifesavers with medical supplies, as required.

7-158. The BAS has medically trained personnel to stabilize patients for further evacuation, to perform immediate lifesaving or limb-saving techniques, and to treat minor wounds or illnesses and return the patients to duty. Other functions of the BAS include the following:

- Receive and record patients.
- Notify the S1 of all patients processed and the disposition of casualties as directed by TSOP.
- Prepare field medical records and verify information on field medical cards.
- Request and monitor aeromedical evacuation.
- Monitor personnel, when necessary, for radiological contamination before medical treatment.
- Decontaminate and treat small numbers of chemical casualties.

CASUALTY REPORTING AND EVACUATION

7-159. Medical evacuations must be planned in detail. Too often, units rely unreasonably on aeromedical evacuation. If these limited assets are available, units must have standard procedures for their use. However, units must plan to care for and evacuate their soldiers by use of organic equipment.

Individual Casualties

7-160. Medics in forward platoon or battery locations treat casualties immediately after appropriate triage. Unit personnel prepare the appropriate documentation and notify the ALOC to prepare to receive casualties, to include preparation of litter teams. The unit transports the patients to the BAS in the combat trains or the nearest medical element/facility (forward aid station, main aid station or ambulance exchange point), depending on the arrangements coordinated by the medical section OIC or the S1.

Mass Casualties

7-161. Casualties in this category are beyond the capability of the unit to handle with organic assets. The affected unit notifies the TOC and the ALOC immediately, providing the general nature and extent of the casualties. The battalion XO normally coordinates and directs the battalion response. The battalion medical sections may require medical and transportation augmentation from other battalion elements in the trains, or from external sources. Following the medical treatment and evacuation, the battalion XO and unit leaders must direct reorganization and reconstitution operations as appropriate.

7-162. Mass casualty procedures must be clearly identified in unit SOPs and FASPs. During the MDMP, operational and risk assessments should identify the most likely times, places, and causes of mass casualties to allow planning

of force protection and mass casualty measures. Internal mutual support plans are often addressed in SOPs, but arrangements for external mass casualty support are often based on the unique situation and available resources. The FASP should identify the internal and external mass casualty mutual support arrangements (not covered by SOP), available assets, triggers, C2 considerations, and timeline or phase considerations.

NBC-Contaminated Casualties

7-163. These casualties fall into two categories:

- Soldiers suffering the effects of an NBC attack.
- Soldiers, although fully protected in MOPP 4, suffering a conventional wound.

7-164. For both circumstances, the casualty must be decontaminated before he is entered into the unit's casualty evacuation system. The initial procedures include taking appropriate protective measures as well as notifying the TOC and the ALOC.

7-165. The battalion establishes a hasty decontamination site, organized under battalion control, and augmented by battery personnel as appropriate. The focus of this initial effort is on the decontamination of casualties. Decontamination of remaining unit personnel and equipment follows, when appropriate, after coordination by the battalion S3.

MEDICAL SUPPLY AND PROPERTY EXCHANGE

7-166. The medical section maintains a three-day stock of medical supplies. To prevent unnecessary depletion of blankets, litters, splints and the like, the receiving medical facility exchanges like property with the transferring agency. Medical property accompanying patients of allied nations is disposed of in accordance with STANAG 2128, Appendix C.

PREVENTIVE MEASURES

7-167. Experience in World War II, Korea, and Vietnam indicates that most hospital admissions were for disease and nonbattle injury. Commanders can reduce disease and non-battle injury by emphasizing preventive medicine, safety, and personal hygiene. See FM 21-10, *Field Hygiene and Sanitation*, and FM 21-10-1, *Unit Field Sanitation Team*.

PRISONERS OF WAR

7-168. The S1 plans and coordinates EPW operations, collection points, and evacuation procedures. Prisoners of war are evacuated from the battalion area as rapidly as possible. The capturing battery is responsible for:

- Guarding prisoners until relieved by proper authority.
- Recovering weapons and equipment.
- Removing documents with intelligence value.
- Reporting EPW events and status to the TOC and ALOC.

7-169. Prisoners are evacuated to the vicinity of the combat trains or UMCP for processing and initial interrogation. Crews of vehicles undergoing repair

or unoccupied mechanics act as guards. Prisoners are then moved to the brigade EPW collection point on returning LOGPAC vehicles or by transportation coordinated through the S4. As necessary, the S2 reviews and reports any documents or information of immediate value. The S4 coordinates evacuation of enemy equipment. Wounded prisoners are treated through normal medical channels but are kept separated from US and allied patients. For additional information on treatment and handling of EPWs, see FM 19-40, *Enemy Prisoners of War, Civilian Internees, and Detained Persons*, and FM 27-10.

SECTION V – RECONSTITUTION

7-170. Planners must be prepared for mass casualties, mass destruction of equipment, and the destruction or loss of effectiveness of entire units. Battalion units that have been catastrophically depleted or rendered ineffective are returned to combat effectiveness through reconstitution.

7-171. Reconstitution consists of the actions to restore units to a desired level of combat effectiveness commensurate with mission requirements and availability of resources. Reconstitution differs from sustaining operations in that it is undertaken only when a unit is at an unacceptable level of combat readiness; sustainment operations are routine actions to maintain combat readiness. Commanders reconstitute by either reorganization or regeneration. See FM 100-9, *Reconstitution*.

REORGANIZATION

7-172. Reorganization is the action taken to shift resources within a degraded unit to increase its combat power. Measures taken include the following:

- Cross-leveling equipment and personnel.
- Matching operational weapon systems with crews.
- Forming composite units.

7-173. Immediate battlefield reorganization is the quick and often temporary restoration of units during an operation.

7-174. Deliberate reorganization is a permanent restructuring of the unit. It is the type of reorganization considered during reconstitution planning. Deliberate reorganization is supported with higher echelon resources (such as maintenance and transportation). Additional replacements and other resources are made available. The parent-unit commander, one echelon higher than the unit being reorganized, must approve a deliberate reorganization.

REGENERATION

7-175. Regeneration is not a battalion commander's prerogative. It consists of:

- Incremental or whole-unit rebuilding through large-scale replacement of personnel, equipment, and supplies.
- Reestablishing or replacing essential command, control, and communications.
- Conducting the necessary training for the rebuilt unit.

7-176. The intensive nature of regeneration requires that a unit be pulled out of combat for this purpose.

WEAPON SYSTEM REPLACEMENT OPERATIONS

7-177. WSRO is a method to supply the combat commander with fully operational replacement weapon systems. Three terms that are often used in describing WSRO are a ready-for-issue weapons system, a ready-to-fight weapon system, and linkup:

- A ready-for-issue weapon system is a weapon that is mechanically operable according to current standards and has all ancillary equipment (fire control, machine guns, radio mounts, and radios) installed. The vehicle has been fully fueled and basic issue items are on board in boxes. There is no ammunition on board and the gaining unit must provide the crew.
- A ready-to-fight weapon system is a crewed, ready-for-issue weapon with ammunition stored on board. For a cannon system, the weapon has been boresighted and boresight has been verified.
- Linkup is the process of joining a ready-for-issue weapon with a trained crew.

7-178. WSRO is simply a procedure for bringing a weapon system to a ready-to-fight condition and handing it off to the combat unit. It involves making a vehicle ready to issue and marrying it to a complete crew, who makes it ready to fight. WSRO is an intensively managed process for giving the commander usable weapon systems in the shortest possible time.

7-179. To manage weapon systems, a common weapon system manager (WSM) is required. A WSM is designated at each level of command. The mission of the WSM is to maximize the number of operational weapon systems in accordance with the commander's priorities. The WSMs at all levels are charged with quick-fix responsibility; they match serviceable vehicles and surviving crews.

7-180. Primary linkup points for weapon systems (weapon with crew) are in the DSA, CSG, or assembly areas for formations in reserve. The DISCOM, COSCOM, or support group commander organizes the linkup point and provides personnel to make the weapon system ready for issue. The crew, working with division or corps elements, readies the weapon system to fight.

7-181. Conditions permitting, some familiarization training may be provided to crews in the linkup area. Such training should include:

- Refresher gunnery.
- Tactical driving.
- Enemy and allied vehicle identification.
- Passive air defense procedures.
- Local TSOPs.
- Any other subjects appropriate to the operational area.

7-182. It is not intended that such wartime training should be elaborate or should substitute for crew qualification. The intent is to familiarize crews with conditions in the combat area and with any key model differences if the weapon is a newer or modified version than others in the unit.

7-183. Whenever possible, experienced soldiers should be mixed with replacement soldiers to form complete crews. New crewmen can join a partial weapon crew (those whose weapon has been destroyed or evacuated) at linkup points to form complete crews. There they pick up a replacement weapon, make it ready to fight and rejoin their unit.